

REMARKS

Reconsideration of the Application is requested.

Claim Rejections - 35 USC § 102

“Claims 1-5, 11-15 are rejected under 35 USC 102(e) as being anticipated by Olsen US Patent No. 6,137,479.

The Olsen reference has taught a watch 54 including display means for at least one item of time related data and having an at least partially transparent outer element covering the display means (figures 4 and 5). The Olsen reference has taught a watch including control means for controlling the movement of cursor on a computer screen and touch sensitive sensors are built into the watch to provide the computer mouse functions, i.e., the mouse watch can be used to detect the cursor movement on the display screen 26 (see also column 5, lines 42-67, and column 6, lines 1-34, and the related claims).”

Applicant's Response

Figures 4A and 4B show respectively: a mouse watch device comprising a roller ball mounted on the bottom of the device, and a track ball mounted on the top of the watch. The reference clearly teaches that the motion encoder 62 is used to detect translation of either a roller ball 68 or a track ball 70. In figure 4c of Olsen a single pressure sensor 72 is disclosed. These embodiments are clearly irrelevant in view of the claimed subject matter, which mentions that “the first control means are formed of a plurality of touch sensitive sensors whose respective sensitive pads are supported at least partially by said outer element.” The features of touch sensitive zones (disclosed in the embodiments of figures 4 and 5) and speed detection as discussed in the specification beginning on page 4 line 17 through page 5 line 16 is not nor suggested by Olsen in the single sensor disclosure.

Figure 4C shows a watch comprising a pressure sensor 72 which is **aside** from the display 60 for the time related data. Consequently, the outer element of the display means 60 does not support, at least partially, the pressure sensor 72, which is one essential feature of claim 1.

Referring to Figure 5, (see also column 6, lines 20-34) there is no indication of which embodiment 4A, 4B or 4C could be used and how. This figure and the corresponding text

deals only with some release mechanism 74.

As explained above, none of the embodiments of Olsen discloses the combined features of claim 1, which mentions on the one hand **the outer element covers** the display means **or forms** an outer portion of these display means, and on the other hand the sensitive pads of the touch sensitive sensors **are supported at least partially by the outer element**.

Thus, claim 1 is not anticipated by the reference to Olsen.

Claim Rejections - 35 USC § 102 Continued

“Claim 2 recites all the limitations of claim 1 and adds the limitation of “watch crystal.” The Olsen reference has taught an outer element such as the cover for the watch (see figures 4-5). Furthermore, any conventional watch would require a cover to protect it from scratches, and the cover could be made from various materials including crystal as an outer element taught by Olsen in figures 4-5.”

Applicant's Response

Claim 2 depends from claim 1 which claims in part that: “a plurality of touch sensitive sensors whose respective sensitive pads are supported at least partially by said outer element” and teaches that the outer element defines a watch crystal. The watch crystal of Olsen does not support a plurality of touch sensitive sensors. Thus claim 2 is distinguishable over Olsen.

Claim Rejections - 35 USC § 102 Continued

“Claim 3 recites all the limitations of claim 1 or 2 and adds the limitation of “first means is supported by the outer element.” The Olsen reference has taught that the first means is supported by the outer element, i.e., the cover or surface for the watch as shown in figures 4-5 (column 6, lines 1-34).”

Applicant's Response

Claim 1 claims in part: “at least partially transparent outer element covering said display means or forming an outer portion of these display means” Olsen identifies their display means 60 which is separate from the roller ball 68 , tract ball 70 or single pressure sensor 72. Thus, claim 3 which depends from claim 1 or 2 does not read on the Olsen reference and claims additional features to those claimed by claim 1 or 2.

Claim Rejections - 35 USC § 102 Continued

“Claim 4 recites all the limitations of claim 1 or 2 and adds the limitation of “a part of sensitive pads is arranged in the top portion of the case.” The Olsen reference has taught in figures 4-5 a cover of watch that protects sensors from scratches (column 6, lines 1-13).”

Applicant's Response

Olsen does not teach “at least partially transparent outer element covering said display means or forming an outer portion of these display means” with a “plurality of touch sensitive sensors whose respective sensitive pads are supported at least partially by said outer element”. The elements of claim 1 are distinguishable over Olsen and the additional features of claim 1 or 2 in addition to the features of claim 4 are clearly distinguishable over Olsen.

Claim Rejections - 35 USC § 102 Continued

“Claim 5 recites all the limitations of claim 1 and adds the limitation of “sensitive pads arranged in the shape of a matrix.” The Olsen reference has taught a watch with multiple sensors arranged to generate signals to control the position of the cursor on the display screen (column 6, lines 1-13). The Office interprets that multiple sensors can be arranged in the shape of matrix.”

Applicant's Response

Applicant strongly disagrees with the Office's interpretation and respectively points out that the embodiment of Olsen shows a single pressure sensor 72. Additionally, the multiple sensors disclosed by Olsen relate to either the roller ball or the track ball as clearly stated in regards to the motion encoder 62 or the computer mouse 84 of figure 6. Thus, claim 5 should be allowed.

Claim Rejections - 35 USC § 102 Continued

“Claim 8 recites all the limitations of claim 5 and adds the limitations of “the movement of cursor corresponds to the path taken by the user's finger.” The Olsen reference teaches in figures 4-5 the surface area of the watch to generate signals to control the position of the cursor on the display screen (column 6, lines 1-13). Since the user's finger can move upon the watch's surface area, the path taken by the user's finger corresponds to the cursor's

movement across a display screen.”

Applicant’s Response

In figures 2 and 3, Applicant illustrated the advantages of the matrix arrangement of the sensors. Olsen’s cursor control is performed with either a roller ball, track ball or single pressure sensor. The use of any of the Olsen devices is difficult on a watch, especially when being worn by the user. Thus, claim 8 is not anticipated by the Olsen reference.

Claim Rejections - 35 USC § 102 Continued

“Claim 11 recites all the limitations of claim 1 and adds the limitation of “second control means.” The Olsen reference has taught a second control means such as the trackball 70 or keys 64 that has incorporated into the mouse watch device of figure 4.”

Applicant’s Response

Claim 11 depends from claim 1 and provides additional features for applicant’s invention and should be allowed for at least the same reasons as claim 1.

Claim Rejections - 35 USC § 102 Continued

“Claim 12 recites all the limitations of claim 11 and adds the limitation of “the second control means arranged in the top portion of case.” The Olsen reference has taught the second control means are arranged in the top portion of the watch (figure 4).”

Applicant’s Response

Claim 12 depends from claim 11 and provides additional features for applicant’s invention and should be allowed for at least the same reasons as claim 11.

Claim Rejections - 35 USC § 102 Continued

“Claim 13 recites all the limitations of claim 11 and adds the limitation of “the second control means formed by touch sensitive sensor.” The Olsen reference has taught a second control means such as the trackball 70 is rotated to move the cursor on the display screen 26 are formed by touch sensitive sensor (column 6, lines 1-34).”

Applicant's Response

Claim 13 depends from claim 11 and provides additional features for applicant's invention and should be allowed for at least the same reasons as claim 11.

Claim Rejections - 35 USC § 102 Continued

"Claim 14 recites all the limitations of claim 11 and adds the limitation of "second control means arranged in a link of the wristband of the watch." The Olsen reference clearly teaches a second control means arranged in a link of the wristband of the watch (column 6, lines 1-34)."

Applicant's Response

Claim 14 depends from claim 11 and provides additional features for applicant's invention and should be allowed for at least the same reasons as claim 11.

Claim Rejections - 35 USC § 102 Continued

"Claim 15 recites all the limitations of claim 11 and adds the limitation of "second control means formed by a push-button." The Olsen reference has taught a second control means such as keys 64 that are formed by a push-button (column 6, lines 1-34)."

Applicant's Response

Claim 15 depends from claim 11 and provides additional features for applicant's invention and should be allowed for at least the same reasons as claim 11.

Claim Rejections - 35 USC § 102 Continued

"Claim 16 recites all the limitations of claim 11 and adds the limitation of "second control means formed by a pressure sensor." The Olsen reference has taught a second control means such as trackball 70 formed by a pressure sensor (column 6, lines 1-34)."

Applicant's Response

Claim 16 depends from claim 11 and provides additional features for applicant's invention and should be allowed for at least the same reasons as claim 11.

Claim Rejections - 35 USC § 103

“Claim 6 is rejected under 35 USC 103(a) as unpatentable over Olsen et al. US Patent No. 6,137,479 in view of Teres et al US Patent No. 6,184,871.

Claim 6 recites all the limitations of claim 5 and adds the limitation of “means for detecting the actuation frequency of successive sensors.” The Olsen reference teaches in figures 4-5 a watch 54 as a pointing device having a display and controls like a conventional watch and a person wears it like a conventional watch. Sensors are built into the watch to provide the computer mouse functions. However, Olsen is silent on means for detecting the actuation frequency of successive sensors.

The Teres reference teaches a watch with means for detecting the activated sensor representing the greatest variation of electrical quantity comprising conversion means of the total capacity of the set of the fixed capacitor and the parasite capacitor of each capacitive sensor A to S into an output signal having a frequency proportional to this capacity (column 3, lines 24-37).

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to have incorporated the means for detecting the actuation frequency of successive sensors of Teres’s watch device in the watch device of Olsen to generate signals for the control of a cursor on a display screen in accordance to the fingertip’s movement speed. One having the ordinary skill in the art would have been motivated to do this to considerably simplify the process of identifying a manual action on a surface formed by a finger.”

Applicant’s Response

Teres discloses an identification device of a manual action on a surface. By “identification device”, it is to be understood a recognition device for recognizing character drawn manually on a surface (see column 1, lines 16-17 referring to lines 12-13).

Further, there is no suggestion to associate the movement of the finger on the surface, i.e. the glass of the watch, with control means for controlling the movement of a cursor on a computer screen.

Thus, one skilled in the art facing a problem consisting of making a compact watch and mouse device would not have been motivated to use Teres’ teaching which concerns essentially in a recognition device without any suggestion to adapt it to a cursor, in order to

associate the separate display means and touch pad of Figure 4C of Olsen.

Claim Rejections - 35 USC § 103

“Claim 7 is rejected under 35 USC 103(a) as unpatentable over Olsen et al. US Patent No. 6,137,479 in view of Teres et al US Patent No. 6,184,871, and further in view of Ferrari et al US Patent No. 6,392,636.

Claim 7 recites all the limitations of claim 6 and adds the limitation of “the ratio between the movement of cursor and the path.” Olsen in view of Teres teaches all the limitations of claim 6. However, the references are silent on the additional limitation as recited in claim 7.

Ferrari teaches a portable device having a display screen by providing an electrical output signal for selectively controlling movement of a cursor across the display screen. Ferrari further teaches capacitive sensing cells arranged in a row/column array top to produce output signals for control of cursor movement in both a row direction and an orthogonal column direction. Ferrari also teaches the horizontal and vertical direction such as the two X and Y array outputs being proportional to the zero and first moment of the 2-D pattern (column 11, lines 32-41 of the Ferrari reference). Therefore, Ferrari has taught that ratio between the movement of cursor and the path taken by a user’s finger across an outer element is less at low speed or actuation frequency than at relatively high speed or actuation frequency.

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to have incorporated the additional means of cursor movement of Ferrari in the watch device of Olsen in view of Teres to control a cursor on a display screen in accordance to the fingertip’s movement speed. One having the ordinary skill in the art would have been motivated to do this to provide a more sensitive or high precision control to the cursor movement across a display screen.”

Applicant’s Response

Olsen in view of Teres (US 6,184,871)

Teres discloses an identification device of a manual action on a surface. By “identification device”, it is to be understood a recognition device for recognizing character

drawn manually on a surface (see column 1, lines 16-17 referring to lines 12-13).

Further, there is no suggestion to associate the movement of the finger on the surface, i.e. the glass of the watch, with control means for controlling the movement of a cursor on a computer screen.

Thus, one skilled in the art facing a problem consisting of making a compact watch and mouse device would not have been motivated to use Teres' teaching which concerns essentially in a recognition device without any suggestion to adapt it to a cursor, in order to associate the separate display means and touch pad of Figure 4C of Olsen.

Olsen in view of Ferrari (US 6,392,636)

Ferrari only discloses a touch pad in itself and a method of detection thereof. There is no disclosure concerning how it could be arranged within a handheld device such as a watch.

Thus, one skilled in the art would not have found any relevant teaching to arranged the device as claimed.

Claim Rejections - 35 USC § 103

"Claims 9-10 are rejected under 35 USC 103(a) as being unpatentable over Olsen et al. US Patent No. 6,137,479 in view of Teres et al US Patent No. 6,184,871.

Claims 9-10 recites all the limitations of claim 1 and adds the limitation of "concentric zones." Olsen discloses a mouse watch with cursor movements as claimed. See figures 4-5 and respective portions of the specification. However, it is silent on the concentric zones, although the mouse watch could have made of an array of sensors forming concentric zones.

Teres et al. teaches a wristwatch device having concentric zones as shown in figure 3.

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to have incorporated an array of sensors forming the concentric zones as taught by Teres in the wristwatch device of Olsen to control a cursor on a display screen relative to the mid-position on the top surface of the watch's display. One having the ordinary skill in the art would have been motivated to do this to provide two different touch-sensitive zones for high precision cursor control."

Applicant's Response

As previously discussed, the sensors of Olsen are for detecting the movement of the roller ball or tract ball and not the touch of an operator. Thus claims 9-10 are patentable over the cited combinations of references.

Claim Rejections - 35 USC § 103

“Claim 17 is rejected under 35 USC 103(a) as being unpatentable over Olsen et al US Patent No. 6,137,479.

Claim 17 recites all the limitations of claim 16 and adds the limitation of “pressure sensor formed by a piezoelectric crystal.” Olsen discloses a mouse watch as claimed. See figures 4-5 and respective portions of the specification. However, it is silent on “pressure sensor formed by piezoelectric crystal”.

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to have incorporated a piezoelectric crystal in the pressure sensors of Olsen since any conventional watch would require a cover to protect it from scratches, and the cover could be made from various materials including a piezoelectric crystal as an outer element taught by Olsen in figure 4.

One having the ordinary skill in the art would have been motivated to do this to provide reasonable light and/or semi-transparent material such as a piezoelectric crystal as the cover of the watch for protection of the sensors inside the portable watch device.”

Applicant's Response

Claim 17 depends from claims 16, 11, and 1. Applicant has distinguished independent claim 1 and dependent claims 11 and 16 over Olsen. The display of Olsen is separate and independent of the tract ball, roller ball and sensor of the different embodiments. There is no suggestion of combining the elements. Thus it would not have been obvious to combine the cited references.

Claim Rejections - 35 USC § 103

“Claim 18 is rejected under 35 USC 103(a) as being unpatentable over Olsen US Patent No. 6,137,479, in view of Teres US Patent No. 6,184,871.

Claim 18 recites all the limitations of claim 11 and adds the limitation of “second

control means formed by micro-contactor”. Olsen discloses a mouse watch as claimed. See figures 4-5 and respective portions of the specification. However, it is silent on “second control means formed by micro-contactor or small travel contactor.”

The Teres reference teaches a second control means such as push buttons or any other new control devices that may be replaced by other sensors (column 5, lines 4-16).

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to have incorporated second control means formed by other sensors such as a micro-contactor or small travel contactor of Teres in the portable watch device of Olsen because the construction of minuet sensors formed by micro-contactor or small travel contactor are well known and widely used in the computer pointing device art. One having the ordinary skill in the art would have been motivated to do this to provide additional control means for the portable watch device.”

Applicant’s Response

Claim 18 depends from claims 11, and 1. Applicant has distinguished independent claim 1 and dependent claims 11 over Olsen. For the reasons previously discussed the additional disclosure of Teres still would not achieve the invention as claimed in claim 18.

OTHER CONSIDERATIONS

Bunsen discloses a pressure sensitive electron device. When pressure is applied on the case of the device of a user’s hand, the pressure is detected by pressure sensors 51-54 which control the repositioning of cursor 29 (see column 2, lines 53-67).

There is no relation between the movement of the finger on the display which is used to write a letter or the like and the control of the positioning of the cursor which is made by pressure detection on the case.

Thus, one skilled in the art may have been motivated to modify the pressure sensor of Olsen by a complex touch pad display shown in Bunsen. However, there is no suggestion for him to bring together the display with time related data of Olsen with the complex touch pad display of Bunsen.

Bisset discloses a touch pad related to a display screen which replaces the computer screen. As shown on figure 17, cursor 324 is directly relied upon the user’s finger.

Further, there is no suggestion that the display screen could be used independently for

displaying other information such as time related data.

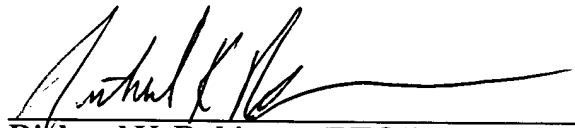
For the same reason as detailed with Bunsen, one skilled in the art would not have obtained the claimed subject matter.

Conclusion

The claims have been amended to correct for minor typographical errors. For all the reasons detailed above, the Applicant believes that the claims are novel and non obvious in view of all cited documents. Allowance of the application is requested.

Respectfully submitted,

Date: February 3, 2003

A handwritten signature in black ink, appearing to read 'Richard K. Robinson', written over a horizontal line.

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